compared to its immediately neighboring biphasic pulses, and wherein each biphasic pulse does not carry any dc component,

wherein the length of each time interval between two consecutive biphasic pulses represents more than one data bit.

REMARKS

This is in response to the Office Action dated September 21, 2001.

An Information Disclosure Statement is concurrently submitted to deal with the issues mentioned in paragraphs 1 and 2 of the Office Action.

Formal drawings are being submitted, including the labeling of "Figure 11."

The grammatical informalities and other informalities in the claims cited in paragraph 4 of the Office Action have been corrected.

The independent claims in the application have been amended. In the case of claim 1, this claim now makes it clear that there is a time interval between the first and second pulses. Claim 8 has been amended to indicate that there are alternating odd and even biphasic pulses.

The independent claims, as amended, now recite that there are odd and even or alternating biphasic pulses with an interval between which represents more than one bit of data.

The claims were rejected under 35 USC §102 based on Miwa. In Miwa, there is a pulse of width t followed by intervals of 1t, 2t, 3t, etc. There are no biphase pulses. If one is to consider the time between the pulses as the other half a biphase pulse, then there is no interval between the biphase pulse. All the claims require an interval between the biphase pulses, which in effect determines the data. Thus, applicant believes the claims cannot be read on Miwa. Note that

claim 1 has been amended to indicate that there is a period of time between the biphase pulses which determines the data. Since the independent claims 1 and 8 do not read on Miwa, the dependent claims do not read on Miwa.

The claims were additionally rejected on Miwa in combination with Gonsewski, et al. The independent claims in the application, claims 1, 8 and 18 as mentioned above, all require alternating biphase pulses with a time interval between the pulses defining more than one bit of data. To the extent that the rejection of any of these claims, or claims dependent on them, relies upon the time intervals set forth in Miwa and the biphasic pulses of Gonsewski, et al., applicant submits such rejection is untenable.

First, applicant believes there is no nexus between the reference that would justify such a combination. Gonsewski, et al. is a clocked system unlike the present invention. Perhaps more importantly, even combining these two references does not provide the present invention. Note that in Gonsewski, et al., the biphasic pulses do not alternate as required by all the independent claims of the present application. For instance, looking at Figure 3 of Gonsewski, et al., when two consecutive 0s are transmitted, the consecutive biphasic pulses are the same.

With the present invention, by alternating the biphasic pulses the received signal has alternating positive and negative pulses, making detection more reliable. (See Figure 1(c)) Additionally, by alternating the biphasic pulses, the required bandwidth decreases.

Consequently, applicant submits that the independent claims should not be rejected based on Miwa and Gonsewski, et al.

Since for the reasons stated above, applicant believes the independent claims are allowable, the dependent claims are likewise allowable.

Applicant submits the present application is in condition for allowance and an early allowance would be appreciated.

If there are any additional charges, please charge our Deposit Account No. 02-2666.

Respectfully submitted,

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Dated: 4/15, 2002

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) A method for transmitting a sequence of data bits using biphasic pulses, wherein each biphasic pulse comprises a positive pulse and a negative pulse, and wherein biphasic pulses comprises even and odd type, comprising:

sending a first biphasic pulse at a first time instance; and

sending a second biphasic pulse at a second time instance after a time interval, wherein said first biphasic pulse and the second biphasic pulse are different types,

wherein the time interval between said [second]first time instance and said [first]second time instance represents at least a first set of the data bits, said first set of data bits comprising [at least]more than one data bit.

2. (Amended) The method according to claim 1, wherein said odd type of said biphasic pulse and said even type of said biphasic pulse being connected by different sequences of the positive pulse and the negative pulse.

8. (Amended) An apparatus for transmitting a sequence of data bits through a data transmission line using biphasic pulses, each of the biphasic pulses comprising a positive and a negative pulse, wherein said biphasic pulses comprises even and odd type, each having a different sequence of the positive pulse and negative pulse comprising:

a marking generator coupled to said transmission line for generating a sequence of alternating odd and even biphasic pulses, each of

two consecutive biphasic pulses being separated by a time interval, said time interval representing a [fist]first set of data bits, wherein said first set of data bits comprises [at least]more than one data bit.

Claims 9-13 have been canceled.

18. (Amended) A method of transmitting a sequence of data bits, comprising:

transmitting a sequence of biphasic pulses comprising odd type and even type, wherein each biphasic pulse is of a different type when compared to its immediately neighboring biphasic pulses, and wherein each biphasic pulse does not carry any dc component,

wherein the length of each time interval between two consecutive biphasic pulses represents more than one data bit [a portion of the data bits].